

WHAT IS CLAIMED IS

1. A disc player comprising:

a positioning unit for positioning a disc;

a clamper unit for performing a clamp operation on the disc positioned by said positioning unit; and

a drive unit that has a pickup and a turntable, and rotates the disc clamped on the turntable by said clamp unit to take out information from the disc by said pickup, wherein said positioning unit and said clamper unit are provided separately from each other and movable substantially vertically to said drive unit.

2. The disc player as claimed in claim 1, wherein a step plate equipped to said positioning unit and a clamp plate equipped to said clamper unit are engaged with a cam groove of a cam plate movable in parallel to a drive plate equipped to said drive unit, and movable vertically to said drive plate by movement of said cam plate.

3. The disc player as claimed in claim 2, wherein said step plate and said clamp plate are moved in synchronism with each other and vertically to said drive plate by the movement of said cam plate.

Subst 4. The disc player as claimed in claim 2 or 3, wherein fit members which are provided to said step plate and said clamp plate and engaged with said cam grooves of said cam plate are fit pawls that are integrally formed by bending and erecting.

5. The disc player as claimed in any one of claims 2 to 4, wherein said fit pawls of said step plate and said clamp plate are integrally formed by bending and erecting in a forming process thereof.

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6. The disc player as claimed in any one of claims 1 to 5, wherein said positioning unit is designed so as to position plural kinds of discs that are different in size.

Sub A1
7. The disc player as claimed in any one of claims 1 to 6, wherein said positioning unit has a step plate, a G plate which is freely rotatably provided to said step plate and has, at one end thereof, a disc stopper on which a disc can be supported, and a sensor arm having, at one end thereof, an arm rod that can be fitted to the disc, the fitting positions of the other ends of said G plate and said sensor arm being changeable in accordance with plural discs different in diameter so that the discs can be positioned.

8. The disc player as claimed in any one of claims 1 to 7, wherein the moving amounts of said positioning unit and said clamper unit are set ~~to different values.~~

9. The disc player as claimed in claim 8, wherein the moving amount of said clamper unit is set to a value larger than that of said positioning unit.

Sub A2
10. The disc player as claimed in claim 8 or 9, wherein the moving amount of said positioning unit is set so that a vibration-isolation stroke can be kept, and the moving amount of said clamper unit is set so that the vibration-isolation stroke can be kept and the clearance between said clamper unit and said clamper ring for clamping said disc ~~onto said turntable can be kept.~~

add a3

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